

BUILD TO SUPPORT HYBRID CLOUD BY DESIGN

Lay the foundation for cloud flexibility in your data-centric architecture.

In today's data-centric world, the business environment puts shared data at the center of value creation, driven by intelligence, machine algorithms, availability, security, and user behavior. Data feeds value, creates value, and is value. Data is the currency of the digital age and the value released from it fuels business. Data-centric organizations have the power to disrupt traditional ways of working and create new economies. However, data alone is inherently powerless. It doesn't actually do anything unless you know how to use it — or at least have a guide to start the process.¹ Like currency, the potential value of data remains untapped by organizations that don't take action to invest it.

The sheer volume and velocity of data generated today is unprecedented, and businesses have responded by becoming data-centric by necessity, or else risk being left behind by their competition. Change is hard, but inaction has consequences. The main challenges to unlocking the value of shared data are in siloed data, clouds, and organizations.

- **Siloed data.** Data is often spread across the enterprise in discrete silos to meet the needs of specific applications, but this inhibits **modern analytics**-driven workflows that demand data be available and delivered quickly as a consistent whole, not fractured in data silos. Additionally, cold data, collected as the economics of storing it improved, had its potential frozen in time when it was captured and forgotten, unintegrated with the objectives of your business.
- **Siloed clouds.** Cloud has earned its place in enterprise IT, but that place has so far been separate and distinct. Separate isn't shared, isn't invested, and isn't valuable. Those data silos withhold data's value from your business, constraining innovation and degrading your users' experience.
- **Siloed organizations.** At the same time, organizational silos, inherited from traditional separation of IT builders and technology operators, prevent the agility of DevOps where the builders *are* the operators and the service is their objective.

Businesses must adapt and strive to acquire, process, and deliver data at this real-time pace to inform decisions and create products for sustainable competitive advantage. And from this digital transformation has arisen the need for a **data-centric architecture** to support data-centric business.

A data-centric architecture is an approach to designing an end-to-end environment — across compute, network, storage, and cloud — that is optimized for ubiquitous and fast consumption of data. A data-centric architecture is characterized by five key pillars:

- Fast, shared data
- On-demand and automated
- Globally reliable and secure
- Hybrid cloud by design
- Constantly on and improving

This paper focuses on the *hybrid cloud by design* pillar of a data-centric architecture.

Data-Centric Architecture

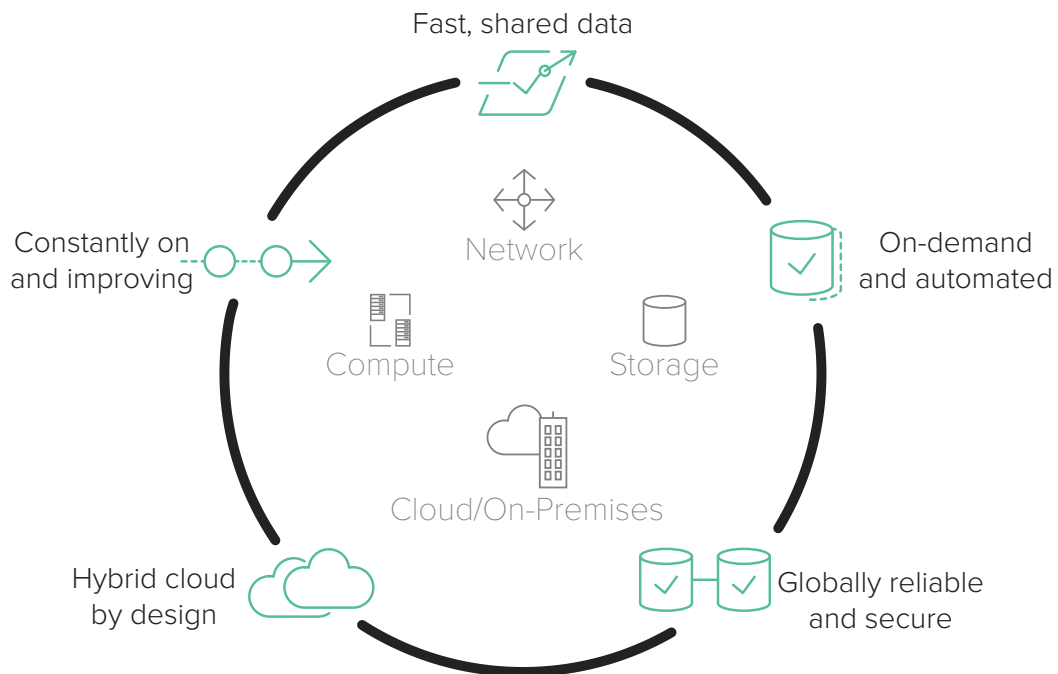


Figure 1. A *data-centric architecture* seamlessly integrates an organization's data center with the cloud.

Business Data, Tools, and Users Live Anywhere

Infrastructures are evolving toward data-centricity to suit how businesses today acquire data from, and deliver value to, many places and services. Businesses are likely, for example, to use data from both on-premises and in-cloud sources. In fact, what might appear to users to be an on-premises source could actually be cloud-based. Further, the evolution of user expectations for **data availability** and connected services makes the *low* of data the key, not where it came from.

Business users can transparently make use of tools and applications that are installed at another organization's facility through infrastructure-as-a-service (IaaS) or platform-as-a-service (PaaS) solutions. Core applications used to run a business might even be software-as-a-service (SaaS) subscriptions that give users access to important data and the tools to manage that data.

Designed for Hybrid Cloud

Because business data and tools can live everywhere, a data-centric architecture supports a **hybrid cloud** by design. The architecture, in other words, must expect the co-existence and interworking of all data resources, whether they are on premises, hosted, available as a service, or based in a **public cloud**. It must also allow applications to enjoy mobility across these data resources, in addition to drawing upon the most appropriate mix of data sources to meet specific business needs.

For example, a data-centric architecture built for hybrid cloud by design will break down data silos by allowing storage volumes to easily move to the cloud or from the cloud, making application and data migration easy. Architecture that is hybrid-cloud-by-design will also allow data to be shared with applications regardless of whether that data is stored on premises or in the cloud, and it should enable hybrid use cases for applications that are born in the cloud but that access on-premises data, or vice-versa. Finally, these advantages of a **hybrid-cloud architecture** must not come at the cost of any aspect of the software lifecycle. It must fully support application development, deployment, and protection.

Pure Storage Supports Hybrid Cloud by Design

Pure Storage® **cloud data services** and cloud data infrastructure bridge the cloud divide, driving hybrid applications that run across clouds and making use of the agility and innovation of private and public cloud, edge devices, and SaaS simultaneously. Where once **private- and public-cloud data storage** operated in separate silos due to different models of resiliency, data services, and APIs, Pure now unifies the cloud, delivering effortless, bi-directional data and application mobility that enables you to run applications anywhere. Whether resources are on premises, delivered by a managed service provider (MSP), accessed as a SaaS solution, or collected from public-cloud services, the vision for data architecture offered by Pure represents a single strategy without boundaries.

Pure supports hybrid-cloud-by-design architecture:

- **FlashArray™ all-flash block-storage solutions:** Pure offers **all-flash block-storage** solutions wherever you need them, with FlashArray on premises and Cloud Block Store in the cloud.
- **FlashBlade™ all-flash file and object storage for unstructured data:** FlashBlade delivers the industry's first ultra-fast **file and object storage** on the same platform, built to be compliant with the Amazon® Simple Storage Service (Amazon S3) object-storage platform, enabling you to power **cloud-native** applications.

- **Pure1® cloud-based storage management:** Pure1 is a **cloud data-management platform** powered by the Pure1 Meta™ artificial intelligence (AI) and machine learning (ML) engine, which monitors and optimizes hybrid data-storage infrastructure across multiple private and public clouds.
- **Cloud Block Store:** Through **Cloud Block Store**, Pure can deliver a true hybrid storage environment that extends to the public cloud. Cloud Block Store enhances the public cloud by bringing tier-1 enterprise-grade storage features to leading public clouds.
- **Evergreen™ Storage Service (ES2):** Pure offers true **storage-as-a-service (STaaS)** options on-premises, hosted, connected to the public cloud, or in the public cloud. Enjoy a unified cloud model, unified technology, and a unified subscription model. This enables data mobility within the hybrid cloud so that you can align application workloads with optimal cloud infrastructure.



Figure 2. Pure Storage components support a hybrid-cloud strategy.

Build a Data Foundation That Is Hybrid Cloud by Design with Pure

Bridging the cloud divide requires a true **hybrid-cloud strategy** — and a **data-centric architecture** — that frees existing applications from specific infrastructure while powering app development across clouds. Pure can help you build this architecture that is hybrid by design, allowing you to build your cloud, run applications anywhere, and harness the power of data wherever it lives.

FOR MORE INFORMATION

For more information about building a data-centric architecture that supports your needs for hybrid cloud, visit www.purestorage.com/solutions/infrastructure/hybrid-cloud.html.

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¹ Digitalist. "Data: The New Currency." December 2017. www.digitalistmag.com/cio-knowledge/2017/12/11/data-new-currency-05592449.